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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,007	10/30/2003	Sanjiv Nanda	030549	1427

23696 7590 05/21/2007

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EXAMINER	
AMINZAY, SHAIMA Q	
ART UNIT	**PAPER NUMBER**
2618	

NOTIFICATION DATE	DELIVERY MODE
05/21/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/699,007	NANDA ET AL.	
	Examiner	Art Unit	
	Shaima Q. Aminzay	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 April 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 12, 2007 has been entered.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal

disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claims 1-38 (Nanda et al., hereinafter '007) are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-39 of US Application 10/809,996 (Krishnan et al., hereinafter '996). Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Regarding claims 1, 15, 23, 27, 31, and 32, Krishnan ('996) discloses a "method of communications from a piconet, comprising: engaging in intra-piconet communications; receiving a pilot signal from a foreign terminal; determining that the strength of the pilot signal is below a threshold; and establishing a peer-to-peer connection with the foreign terminal", "further comprising receiving instructions to engage in the intra-piconet communications during a first time period, receiving the transmission from the terminal in a second time period, and forwarding the received transmission to the foreign terminal in a third time period", "communications terminal configured to operate in a piconet, comprising: a receiver configured to detect a pilot signal from a foreign terminal and determine its strength; and a controller configured to establish a peer-to-peer connection with the foreign terminal to support communications if the pilot signal strength is below a threshold, the controller further being configured to support intra-piconet communications", and a "communications terminal configured to operate in a piconet, comprising: means for detecting a pilot signal from a foreign terminal; means for

determining the strength of the detected pilot signal; means for establishing a peer-to-peer connection with the foreign terminal to support communications if the pilot signal strength is below a threshold; and means for supporting intra-piconet communications" (page 6 right-column, claim 1, page 7, left-column, claim 15, page 7 left-column continued to right column, claim 20, page 8, right-column, claim 39).

The cited reference has more limitations, thereby encompassing the present application's limitations.

Furthermore, omission of an element and its function in combination is obvious expedient if remaining elements perform same functions as before in re KARLSON (CCPA) 136 USPQ 184 (1963).

For these reasons, independent claims 1, 15, 23, 27, and 31-32 are rejected. Claims 2-14, 33, 16-22, 34, 24-25, 35, 28-30, and 36-38 are dependent of claims 1, 15, 23, and 27 are rejected on the ground of nonstatutory obviousness-type double patenting under the same reasons set forth in claims 1, 15, 23, 27, and 31-32.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-14, 32-33, and 38 are rejected under 35 U.S.C. 112 Second Paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In independent claims 1 and 32, line 4, the phrase "if the receiver detects such first incoming pilot signal ...", the phrase needs to be changed to "--when the receiver detects such first incoming pilot signal ...--". Claims 2-14, 33, and 38 are depend from independent claims 1, and 32 are rejected under the same reasons set forth in claims 1, and 32.

Response to Argument

3. Response to arguments with respect to rejected claims 1-38 is **moot** as the amendment to independent claims 1, 15, 23,27, 31-32 and adding new dependent claims 33-38 overcome the claims rejection, therefore, the Claim Rejections-35 USC 103(a) with respect to claims 1-30, and the Claim Rejections-35 USC 102(e) with respect to claims 31-32 withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action

> (a) Patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made

4. Claims 1-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haartsen (Haartsen, U. S. Patent 6,026,297) in view of Ahmed (Ahmed et al., US Patent 7,158,484).

Regarding claim 1, Haartsen discloses a module *(see for example, Figures 1-3, column 1, lines 5-46, column 2, lines 38-67, column 3, lines 1-15)*, comprising: a receiver configured to listen for a period of time for a first incoming pilot signal from a first remote terminal that exceeds *[a threshold]* power level *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, the receiver listens to receive the first signal of the remote wireless unit (terminal))*; and a processor configured to operate under control of the first remote terminal if the receiver detects such first incoming pilot signal within the time period *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16, if the incoming signal is received within the listening time*

(period) then the first terminal is the master (controller or processor)), and operate independently of the first remote terminal if such first incoming pilot signal said *[threshold]* level not detected by the receiver within the time period, *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16, if the incoming signal is not received within the listening time (period), then the receiver operates independently and the first terminal is not the master)*, such independent operation including enabling a pilot signal transmission *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16, the independent operation of the receiver and the first terminal includes paging message or inquiries (pilot signal))*, whereby the transmission of a pilot signal enables communications with at least one other terminal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16, the data communication transmission allows connection with other terminals).*

Haartsen does not specifically teach threshold power level and the pilot signal enabling other terminal, however, Haartsen teaches the power affecting the communication signals *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-65)*, and the data communication transmission allows connection with other terminals *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67,*

column 4, lines 1-11, lines 17-27, column 7, lines 6-16).

In a related art dealing with network topology for mobile communications *(see for example, Figures 1-11, column 1, lines 7-10, lines 56-59, column 2, lines 45-62, column 3, lines 45-56, lines 64-67, column 4, lines 1-11),* Ahmed teaches the threshold power level *(see for example, column 3, lines 45-56, lines 64-67, column 4, lines 1-11, lines, column 9, lines 60-67, column 10, lines 1-15, column 12, lines 25-45),* and the pilot signal enabling other terminal *(see for example, column 3, lines 45-56, lines 64-67, column 4, lines 1-11, column 5, lines 10-22).*

It would have been obvious to one of ordinary skill in the art at the time invention was made to have included Ahmed's threshold power level and pilot signal enablement with Haartsen's wireless communication system to provide a wireless network communication system with the best network topology achieving "minimum collision by allowing the nodes to continuously monitor available pilots and transmit on the least-interference channels", and to achieve overall good network connectivity with power efficiency *(*Ahmed, *column 20, lines 5-11, column, lines 43-44).*

Regarding claim 15, Haartsen discloses a method of communications *(see for example, Figures 1-3, column 1, lines 5-46, column 2, lines 38-67, column 3, lines 1-15),* comprising: listening for a period of time for an incoming pilot signal from a first remote terminal that exceeds *[a threshold]* power level for the purpose of acquiring such incoming pilot signal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, the*

receiver listens to receive the first signal of the remote wireless unit (terminal)) and operating under control of the first remote terminal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16, if the incoming signal is received within the listening time (period) then the first terminal is the master (controller))*; determining a condition of non-acquisition of such incoming pilot signal has not been acquired within the time period *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16, in case of detection of the incoming signal is not received within the listening time (period), then the receiver operates independently and the first terminal is not the master)*; and operating independently of the first remote terminal after determining the condition of non-acquisition of such incoming pilot signal within the time period *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16, the independent operation of the receiver and making decision on the condition of received information including non paging message or non inquiries (pilot signal))*, such independent operation including transmitting a pilot signal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16, including paging message or inquiries (pilot signal))*, whereby the transmission of a pilot signal enables communications with at least one other terminal *(see for example, Figures 1-3, Abstract,*

lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16, the data communication transmission allows connection with other terminals).

Haartsen does not specifically teach threshold power level and the pilot signal enabling other terminal, however, Haartsen teaches the power affecting the communication signals *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-65),* and the data communication transmission allows connection with other terminals *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27; column 7, lines 6-16).*

In a related art dealing with network topology for mobile communications *(see for example, Figures 1-11, column 1, lines 7-10, lines 56-59, column 2, lines 45-62, column 3, lines 45-56, lines 64-67, column 4, lines 1-11),* Ahmed teaches the threshold power level *(see for example, column 3, lines 45-56, lines 64-67, column 4, lines 1-11, lines, column 9, lines 60-67, column 10, lines 1-15, column 12, lines 25-45),* and the pilot signal enabling other terminal *(see for example, column 3, lines 45-56, lines 64-67, column 4, lines 1-11, column 5, lines 10-22).*

It would have been obvious to one of ordinary skill in the art at the time invention was made to have included Ahmed's threshold power level and pilot signal enablement with Haartsen's wireless communication system to provide a wireless network communication system with the best network topology achieving "minimum collision by allowing the nodes to continuously monitor available pilots and transmit on the least-interference

channels", and to achieve overall good network connectivity with power efficiency *(*Ahmed, *column 20, lines 5-11, column, lines 43-44).*

Regarding claim 23, Haartsen discloses a module *(see for example, Figures 1-3, column 1, lines 5-46, column 2, lines 38-67, column 3, lines 1-15)*, comprising: means for listening for a period of time for an incoming pilot signal from a remote terminal that exceeds a threshold power level *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, the receiver listens to receive the first signal of the remote wireless unit (terminal))*; means for operating under control of the first remote terminal in the case of detecting of such incoming pilot signal within the time period *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16, in case of detection of the incoming signal that is received within the listening time (period) then the first terminal is the master (controller))*; and means for operating independently of the first remote terminal whereby in the case of non-detection of such incoming pilot signal within the time period *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16, in case of detection of the incoming signal is not detected within the listening time (period), then the receiver operates independently and the first terminal is not the master)*, such independent operation including enabling a pilot signal transmission *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines*

18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16, the independent operation of the receiver and the first terminal includes paging message or inquiries (pilot signal)) to enables communications with at least one other terminal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16, the data communication transmission allows connection with other terminals).*

Haartsen does not specifically teach threshold power level and the pilot signal enabling other terminal, however, Haartsen teaches the power affecting the communication signals *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-65),* and the data communication transmission allows connection with other terminals *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16).*

In a related art dealing with network topology for mobile communications *(see for example, Figures 1-11, column 1, lines 7-10, lines 56-59, column 2, lines 45-62, column 3, lines 45-56, lines 64-67, column 4, lines 1-11),* Ahmed teaches the threshold power level *(see for example, column 3, lines 45-56, lines 64-67, column 4, lines 1-11, lines, column 9, lines 60-67, column 10, lines 1-15, column 12, lines 25-45),* and the pilot signal enabling other terminal *(see for example, column 3, lines 45-56, lines 64-67, column 4, lines 1-11, column 5, lines 10-22).*

It would have been obvious to one of ordinary skill in the art at the time invention was

made to have included Ahmed's threshold power level and pilot signal enablement with Haartsen's wireless communication system to provide a wireless network communication system with the best network topology achieving "minimum collision by allowing the nodes to continuously monitor available pilots and transmit on the least-interference channels", and to achieve overall good network connectivity with power efficiency *(*Ahmed, *column 20, lines 5-11, column, lines 43-44).*

Regarding claim 27, Haartsen discloses computer readable medium embodying a program of instructions executable by a computer program to perform communications *(see for example, Figures 1-3, column 1, lines 5-46, column 2, lines 38-67, column 3, lines 1-15, column 6, lines 7-11, lines 58-64)*, the instructions comprising: listening for a period of time for an incoming pilot signal from a first remote terminal that exceeds *[a threshold]* power level for the purpose of acquiring such incoming pilot *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, the receiver listens to receive the first signal of the remote wireless unit (terminal))* and operating under control of the first remote terminal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16, if the incoming signal is received within the listening time (period) then the first terminal is the master (controller))*; determining a condition of non-acquisition of such incoming pilot signal has not been acquired within the time period *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46,*

column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16, in case of detection of the incoming signal is not received within the listening time (period), then the receiver operates independently and the first terminal is not the master); and operating independently of the remote terminal after determining condition of non-acquisition of such incoming pilot signal has not been acquired within the time period *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16, in case of detection of the independent operation of the receiver and the first terminal includes paging message or inquiries (pilot signal))*, such independent operation including transmitting a pilot signal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16, including paging message or inquiries (pilot signal))*, whereby the transmission of a pilot signal enables communications with at least one other terminal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16, the data communication transmission allows connection with other terminals).*

Haartsen does not specifically teach threshold power level and the pilot signal enabling other terminal, however, Haartsen teaches the power affecting the communication signals *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-65),* and the data communication transmission allows connection with other terminals *(see for example,*

Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16).

In a related art dealing with network topology for mobile communications *(see for example, Figures 1-11, column 1, lines 7-10, lines 56-59, column 2, lines 45-62, column 3, lines 45-56, lines 64-67, column 4, lines 1-11),* Ahmed teaches the threshold power level *(see for example, column 3, lines 45-56, lines 64-67, column 4, lines 1-11, lines, column 9, lines 60-67, column 10, lines 1-15, column 12, lines 25-45),* and the pilot signal enabling other terminal *(see for example, column 3, lines 45-56, lines 64-67, column 4, lines 1-11, column 5, lines 10-22).*

It would have been obvious to one of ordinary skill in the art at the time invention was made to have included Ahmed's threshold power level and pilot signal enablement with Haartsen's wireless communication system to provide a wireless network communication system with the best network topology achieving "minimum collision by allowing the nodes to continuously monitor available pilots and transmit on the least-interference channels", and to achieve overall good network connectivity with power efficiency *(*Ahmed, *column 20, lines 5-11, column, lines 43-44).*

Regarding claim 31, Haartsen discloses a method of communications *(see for example, Figures 1-3, column 1, lines 5-46, column 2, lines 38-67, column 3, lines 1-15),* comprising: listening for a period of time to acquire an incoming pilot signal from a remote terminal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-*

46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, the receiver listens to receive the first inquiry message signal (pilot signal) of the remote wireless unit (terminal)); determining that such incoming pilot signal has been acquired within the time period *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 3, lines 4-15, lines 665-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16)*; exchanging signaling messages with the first remote terminal once such incoming pilot signal has been acquired *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 3, lines 4-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16)*; enabling a pilot signal transmission for the purpose of operating independently of the remote terminal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 3, lines 4-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16)*; and registering a plurality of second remote terminals that acquire the transmitted pilot signal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 3, lines 4-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16)*, the second remote terminals previously registered with the first remote terminal prior to the exchange of signaling messages *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 3, lines 4-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16)* whereby the transmission of a pilot signal enables communications with at least one other terminal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16, the data communication transmission allows connection with other*

terminals).

Haartsen does not specifically the pilot signal enabling other terminal, however, Haartsen teaches the data communication transmission allows connection with other terminals *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16).*

In a related art dealing with network topology for mobile communications *(see for example, Figures 1-11, column 1, lines 7-10, lines 56-59, column 2, lines 45-62, column 3, lines 45-56, lines 64-67, column 4, lines 1-11),* Ahmed teaches the pilot signal enabling other terminal *(see for example, column 3, lines 45-56, lines 64-67, column 4, lines 1-11, column 5, lines 10-22).*

It would have been obvious to one of ordinary skill in the art at the time invention was made to have included Ahmed's pilot signal enablement with Haartsen's wireless communication system to provide a wireless network communication system with the best network topology achieving "minimum collision by allowing the nodes to continuously monitor available pilots and transmit on the least-interference channels", and to achieve overall good network connectivity with power efficiency *(*Ahmed, *column 20, lines 5-11, column, lines 43-44).*

Regarding claim 32, Haartsen discloses a module of communications *(see for example, Figures 1-3, column 1, lines 5-46, column 2, lines 38-67, column 3, lines 1-15),* comprising: a receiver configured to listen for a period of time to acquire an incoming

pilot signal from a remote terminal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, the receiver listens to receive the first inquiry message signal (pilot signal) of the remote wireless unit (terminal))*; and a processor configured to acquire such incoming signal if the receiver detects such incoming pilot signal within the time period *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16, if the incoming signal is received within the listening time (period) then the first terminal is the master (controller or processor))*, exchange signaling messages with the remote terminal upon acquisition of such incoming pilot signal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 3, lines 4-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16)*, enable a pilot signal transmission for the purpose of operating independently of the first remote terminal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 3, lines 4-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16)*, and register a plurality of second remote terminals that acquire the transmitted pilot signal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 3, lines 4-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16)*, the second remote terminals being previously registered with the first remote terminal prior to the exchange of signaling messages *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 3, lines 4-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16)*, whereby the transmission of a pilot signal enables communications with at least one

other terminal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16, the data communication transmission allows connection with other terminals).*

Haartsen does not specifically teach the pilot signal enabling other terminal, however, Haartsen teaches the data communication transmission allows connection with other terminals *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16).*

In a related art dealing with network topology for mobile communications *(see for example, Figures 1-11, column 1, lines 7-10, lines 56-59, column 2, lines 45-62, column 3, lines 45-56, lines 64-67, column 4, lines 1-11),* Ahmed teaches the pilot signal enabling other terminal *(see for example, column 3, lines 45-56, lines 64-67, column 4, lines 1-11, column 5, lines 10-22).*

It would have been obvious to one of ordinary skill in the art at the time invention was made to have included Ahmed's pilot signal enablement with Haartsen's wireless communication system to provide a wireless network communication system with the best network topology achieving "minimum collision by allowing the nodes to continuously monitor available pilots and transmit on the least-interference channels", and to achieve overall good network connectivity with power efficiency *(*Ahmed, *column 20, lines 5-11, column, lines 43-44).*

Regarding claims 2 and 16, Haartsen in view of Ahmed teach all the limitations of claims 1, 15, and further, Haartsen teaches wherein the processor is further configured to establish a communications link with a second remote terminal that acquires the transmitted pilot signal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 4-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16).*

Regarding claims 3 and 17, Haartsen in view of Ahmed teach all the limitations of claims 1, 15, and further, Haartsen teaches wherein the processor is further configured to register each of a plurality of second remote terminals that acquire the transmitted pilot signal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, 2, lines 42-54, column 3, lines 4-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16).*

Regarding claims 4 and 18, Haartsen in view of Ahmed teach all the limitations of claims 3, 17, and further, Haartsen teaches wherein the processor is further configured to manage the number of terminal registrations *(see for example, column 1, lines 5-46, column 2, lines 42-54, column 3, lines 4-15, lines 62-67, column 7, lines 6-16).*

Regarding claims 5 and 19, Haartsen in view of Ahmed teach all the limitations of claims 4, 18, and further, Haartsen teaches wherein the processor is further configured to manage the number of terminal registrations by adjusting *[the power level of]* the pilot

signal transmission *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11)*, and further, Ahmed teaches the power level *(see for example, column 3, lines 45-56, lines 64-67, column 4, lines 1-11, lines, column 9, lines 60-67, column 10, lines 1-15, column 12, lines 25-45).*

Regarding claims 6, 20, Haartsen in view of Ahmed teach all the limitations of claims 3, 17, and further, Haartsen teaches wherein the processor is further configured to receive feedback from each of the registered terminals and designate one or more of the registered terminals to support communications with unregistered terminals based on the feedback *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 4-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16).*

Regarding claims 7, 21, Haartsen in view of Ahmed teach all the limitations of claims 6, 20, and further, Haartsen teaches wherein the feedback provided by each of the registered terminals is an indicator of the transmitted pilot signal strength measured at its respective registered terminals *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 5-9, lines 18-46, column 2, lines 42-54, column 3, lines 4-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16).*

Regarding claims 8, 22, Haartsen in view of Ahmed teach all the limitations of claims

1, 15, and further, Haartsen teaches wherein the processor is further configured to receive a request to communicate from an unregistered terminal and assign one of the registered terminals to communicate with the unregistered terminal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 5-9, lines 18-46, column 2, lines 42-54, column 3, lines 4-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16).*

Regarding claims 9, 26, 30, Haartsen in view of Ahmed teach all the limitations of claims 1, 23, 27, further, Haartsen teaches wherein the processor is further configured to set the *[threshold power level as a]* function of a minimum data rate that can be supported with the first remote terminal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 5-9, lines 18-46, column 2, lines 42-54, column 3, lines 4-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16)..*, and further, Ahmed teaches the threshold power level *(see for example, column 3, lines 45-56, lines 64-67, column 4, lines 1-11, lines, column 9, lines 60-67, column 10, lines 1-15, column 12, lines 25-45).*

Regarding claim 10, Haartsen in view of Ahmed teach all the limitations of claims 1, and further, Haartsen teaches wherein the processor is further configured to register with the first remote terminal if the receiver detects such first incoming pilot signal within the time period *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 3, lines 4-15, lines 665-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16).*

Regarding claim 11, Haartsen in view of Ahmed teach all the limitations of claims 10, and further, Haartsen teaches wherein the receiver is further configured to listen for a second incoming pilot signal from a second remote terminal not registered with the remote terminal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 3, lines 4-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16)*, and wherein the processor is further configured to establish a communications link with the second remote terminal if the receiver detects the second incoming pilot signal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 3, lines 4-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16)*.

Regarding claim 12, Haartsen in view of Ahmed teach all the limitations of claims 11, and further, Haartsen teaches wherein the processor is further configured to schedule the receiver to listen for the second incoming pilot signal under control of the remote terminal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 3, lines 4-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16)*,

Regarding claim 13, Haartsen in view of Ahmed teach all the limitations of claims 10, and further, Haartsen teaches wherein the processor is further configured to establish a communications link with a second remote terminal not registered with the remote terminal under direction of the remote terminal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-*

67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16).

Regarding claim 14, Haartsen in view of Ahmed teach all the limitations of claims 1, and further, Haartsen teaches wherein the period of time the receiver listens for such incoming pilot signal is a function of the capabilities of the module *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11).*

Regarding claims 24, 28, Haartsen in view of Ahmed teach all the limitations of claims 23, 27, and further, Haartsen teaches registering a plurality of second remote terminals that acquire the transmitted pilot signal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 3, lines 4-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16).*

Regarding claims 25, 29, Haartsen in view of Ahmed teach all the limitations of claims 24, 28, further, Haartsen teaches managing the number of terminal registrations by adjusting *[the power level of]* the pilot signal transmission *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11)*, and further, Ahmed teaches the power level *(see for example, column 3, lines 45-56, lines 64-67, column 4, lines 1-11, lines, column 9, lines 60-67, column 10, lines 1-15, column 12, lines 25-45).*

Regarding claims 33, 34, and 35, Haartsen in view of Ahmed teach all the limitations of claims 1, 15, 23, and further, Haartsen teaches wherein the transmission of a pilot signal enables communication with terminals not controlled by a master terminal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16).*

Regarding claims 36, 37, and 38, Haartsen in view of Ahmed teach all the limitations of claims 27, 31, 32, and further, Haartsen teaches wherein the transmission of a pilot signal enables communication with terminals not controlled by a master terminal *(see for example, Figures 1-3, Abstract, lines 11-21, column 1, lines 18-46, column 2, lines 42-54, column 3, lines 1-15, lines 62-67, column 4, lines 1-11, lines 17-27, column 7, lines 6-16).*

Conclusion

The prior art made of record considered pertinent to applicant's disclosure, see PTO-892 form.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shaima Q. Aminzay whose telephone number is 571-272-7874. The examiner can normally be reached on 7:00 AM -4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mathew D. Anderson can be reached on 571-272-4177. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shaima Q. Aminzay
(Examiner)

MATTHEW ANDERSON
SUPERVISORY PATENT EXAMINER

May 12, 2007